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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/561,377

**Applicant(s)**

SPAHN, MARTIN

**Examiner**

NANCY BITAR

**Art Unit**

2624

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 13-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-85/86)
- Paper No(s)/Mail Date 12/16/05, 05/02/06
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### **Examiner Notes**

1. Examiner cites particular columns and line numbers in the references as applied to the claims below for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 13- 14, 17-21, 23-24 are rejected under 35 U.S.C. 102(b) as being unpatentable by Schmitt et al (US 2003/0108154).

As to claim 13, Schmitt teaches the method for image refining of digital x-ray images, comprising: providing an image processing module ( the selection device can be fashioned as a functional group or as a module in a computer that controls the examination device, paragraph [0011]) ; supplying to the image processing module a parameter from a current parameter set ( paragraph [0022-0024]); displaying an associated model image for a standard parameter set by

using a stored image data; and selecting the standard parameter set by selecting the associated model image (The image B that is read out from the memory device 31 and that is to be anticipated for the selected examination region 12 and the selected positioning proposal P1, P2, P3 is shown at the right in the lower part of FIG. 2, paragraph [0040]). Note that sample x-ray image preselected in accordance with a user-defined parameter model is displayed to a user, paragraph [0008]).

As to claim 14, Schmitt teaches the method according to claim 13, further comprising: selecting a plurality of standard parameter sets, and creating the current parameter set from the plurality of standard parameter sets ( see paragraph [0008], note that the desired examination region can be selected from a number of images stored in the memory device, paragraph [0027]).

As to claim 17, Schmitt teaches the method according to claim 14, further comprising storing different parameter sets for different body organs to be examined ( different images would also be stored for different settings of a device parameter, paragraph [0022]).

As to claim 18, Schmitt teaches the method according to claim 14, further comprising storing different parameter sets for different acquisition projections (the selection device is configured such that, employing initial data of the sensor, the length ("height"), the thickness and/or the sex of the patient can be evaluated. The selection device, dependent on the evaluation, undertakes the selection of one of the stored images and/or modifies the image that is read out before it is displayed on the display device, paragraph [0026]).

As to claim 19, Schmitt teaches the method according to claim 14, further comprising storing different parameter sets for different generator settings (The device parameter preferably

is a tube voltage of the X-ray source, a tube current of the X-ray source, a switching time of the X-ray source and/or a radiation quantity of the X-ray source, paragraph [0023]).

The limitation of claims 20-21 has been addressed above.

Claim 23 differ from claim 1 only in that claim 1 is a method claim whereas; claim 23 is an apparatus claim. Thus, claim 23 is analyzed as previously discussed with respect to claim 1 above.

As to claim 24, Schmitt teaches the apparatus according to claim 23, wherein x-ray detector is a solid-state detector having an active readout matrix made of amorphous silicon (solid state detector, paragraph [0012]).

#### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 15-16, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmitt et al (US 2003/0108154) in view Panin et al (US 6,539,103).

As to claim 15, Schmitt teaches the method according to claim 14, wherein the current parameter set is created by a parameter of the selected standard parameter sets (paragraph [0022]). While Schmitt meets a number of the limitations of the claimed invention, as pointed out more fully above, Schmitt fails to specifically teach the current parameter set is created by a

parameter-specific linear combination of the selected standard parameter sets .Specifically, Panin et al. teaches an image reconstruction using a knowledge set where the constructing a non-uniform attenuation map of a subject for use in image reconstruction of data is provided. It includes collecting a population of a priori transmission images and storing them in an a priori image memory. The transmission images are not of the subject. Next, a cross-correlation matrix is generated from the population of transmission images. The eigenvectors of the cross-correlation matrix are calculated. A set of orthonormal basis vectors is generated from the eigenvectors. A linear combination of the basis vectors is constructed, and coefficients for the basis vectors are determined such that the linear combination thereof defines the non-uniform attenuation map (see figure 1). It would have been obvious to one of ordinary skill in the art to use the linear combination of the selected parameter in Schmitt calculation algorithm in order to achieve accurate parameter set and decrease the effort of data processing associated with the display of the model images. Therefore, the claimed invention would have been obvious to one of ordinary skill in the art at the time of the invention by applicant.

As to claim 16, Schmitt teaches the method according to claim 15, wherein the image data for a final image, which is modified in accordance with the associated standard parameter set, is stored for displaying the model image ( a modification of the brightness of the image that is read out simulates a modification of the tube current, note that the selection device modifies the image that is read out dependent on an input of a device parameter undertaken at the operating device before the modified image is displayed at the display device, paragraph [0022-0024]).

The limitation of claim 22 has been addressed in claim 15 above.

**Conclusion**

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NANCY BITAR whose telephone number is (571)270-1041. The examiner can normally be reached on Mon-Fri (7:30a.m. to 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew W. Johns/  
Primary Examiner, Art Unit 2624

Nancy Bitar

2/20/2008